

# An Atmospheric Sampling Ion Trap Mass Spectrometer for Global Health Assessment and Planetary Applications (atmOMA)

Canceled Technology Project (2015 - 2016)



## Project Introduction

We will develop a proof-of-principle prototype mass spectrometer that is capable of analyzing solid samples at *elevated ambient pressures*. Solid samples will be analyzed for detection of key molecular markers.

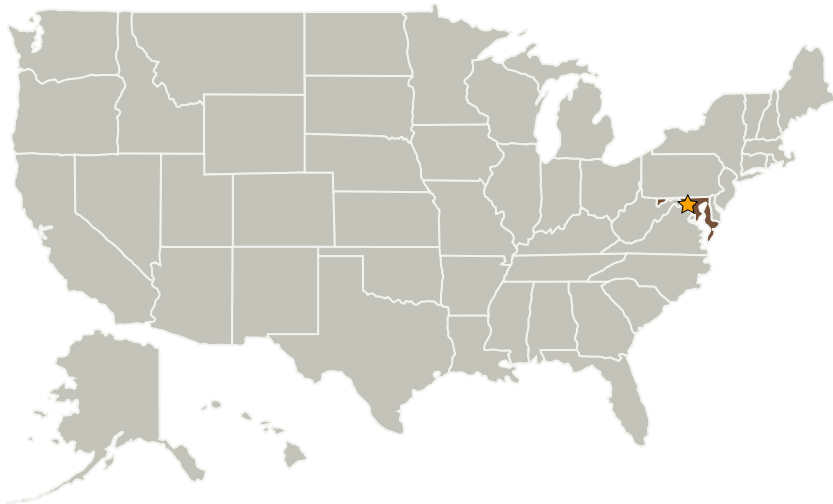
We will develop key technical elements that enable the mass spectrometer to examine the nonvolatile organic composition of solid samples at a range of high and/or variable ambient pressures. We will further test these elements, both separately and together, for application both to future planetary missions and to terrestrial field health assessment objectives.

## Anticipated Benefits

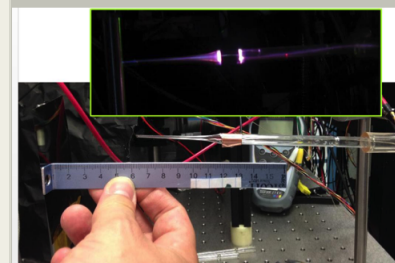
Future planetary missions

Agencies concerned with global health measurement, rapid health monitoring, and nutritional/dietary product analysis could benefit substantially. General real-world analytical requirements are of interest to numerous government programs.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland



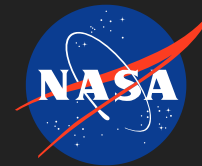
A prototype precision cold plasma ion source is tested with a mass spectrometer breadboard.

## Table of Contents

Project Introduction	1
Anticipated Benefits	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Images	2
Project Website:	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3

# An Atmospheric Sampling Ion Trap Mass Spectrometer for Global Health Assessment and Planetary Applications (atmOMA)

Canceled Technology Project (2015 - 2016)



## Primary U.S. Work Locations

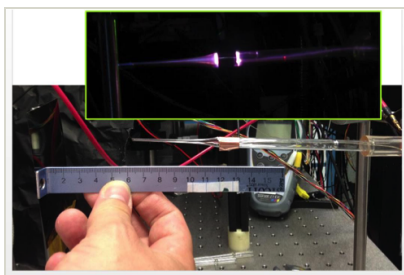
Maryland

## Project Transitions

**October 2015:** Project Start

**September 2016:** Project canceled because budget cuts, funding reallocation, or insufficient funding  
**Rationale:** Project canceled because budget cuts, funding reallocation, or insufficient funding

## Images



### Ambient Plasma Ion Source

A prototype precision cold plasma ion source is tested with a mass spectrometer breadboard.  
(<https://techport.nasa.gov/image/19289>)

## Project Website:

<http://sciences.gsfc.nasa.gov/sed/>

## Organizational Responsibility

### Responsible Mission Directorate:

Mission Support Directorate (MSD)

### Lead Center / Facility:

Goddard Space Flight Center (GSFC)

### Responsible Program:

Center Independent Research & Development: GSFC IRAD

## Project Management

### Program Manager:

Peter M Hughes

### Project Manager:

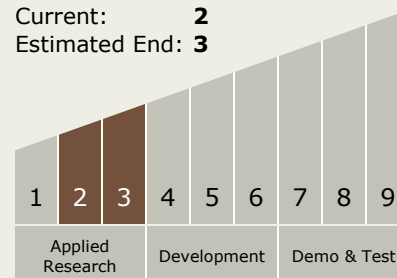
Brook Lakew

### Principal Investigator:

William B Brinckerhoff

## Technology Maturity (TRL)

Start: 2  
Current: 2  
Estimated End: 3



# An Atmospheric Sampling Ion Trap Mass Spectrometer for Global Health Assessment and Planetary Applications (atmOMA)

Canceled Technology Project (2015 - 2016)



## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.3 In-Situ Instruments and Sensors